

STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
PUBLIC NOTICE NO. 20211015 IN0003573 – D
DATE OF NOTICE: OCTOBER 15, 2021
DATE RESPONSE DUE: NOVEMBER 15, 2021

The Office of Water Quality proposes the following NPDES DRAFT PERMIT:

MAJOR – MODIFICATION

GENERAL MOTORS COMPANY - BEDFORD, Permit No. IN0003573, LAWRENCE COUNTY, 105 GM Drive, Bedford, IN. This major facility manufactures aluminum casting products. GM is requesting a modification to remove Outfall 002 and commingle the wastewater prior to discharge through Outfall 003. Permit Manager: Taylor Wissel, 317/234-4260, twissel@idem.in.gov. Posted online at <https://www.in.gov/idem/public-notices/>.

PROCEDURES TO FILE A RESPONSE

Draft can be viewed or copied (10¢ per page) at IDEM/OWQ NPDES PS, 100 North Senate Avenue, (Rm 1203) Indianapolis, IN, 46204 (east end elevators) from 9 – 4, Mon - Fri, (except state holidays). A copy of the Draft Permit is on file at the local County Health Department. Please tell others you think would be interested in this matter. For your rights & responsibilities see: Public Notices: <https://www.in.gov/idem/public-notices/>; Citizen Guide: <https://www.in.gov/idem/resources/citizens-guide-to-idem/>. Please tell others whom you think would be interested in this matter.

Response Comments: The proposed decision to issue a permit is tentative. Interested persons are invited to submit written comments on the Draft permit. All comments must be postmarked no later than the Response Date noted to be considered in the decision to issue a Final permit. Deliver or mail all requests or comments to the attention of the Permit Writer at the above address, (mail code 65-42 PS).

To Request a Public Hearing:

Any person may request a Public Hearing. A written request must be submitted to the above address on or before the Response Date noted. The written request shall include: the name and address of the person making the request, the interest of the person making the request, persons represented by the person making the request, the reason for the request and the issues proposed for consideration at the Hearing. IDEM will determine whether to hold a Public Hearing based on the comments and the rationale for the request. Public Notice of such a Hearing will be published in at least one newspaper in the geographical area of the discharge and sent to anyone submitting written comments and/or making such request and whose name is on the mailing list at least 30 days prior to the Hearing.



INDIANA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT

We Protect Hoosiers and Our Environment.

100 N. Senate Avenue • Indianapolis, IN 46204

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Eric J. Holcomb
Governor

Bruno Pigott
Commissioner

October 15, 2021

VIA ELECTRONIC MAIL

Mr. Robert Morris, Plant Manager
General Motors LLC – GPS Bedford
105 GM Drive
Bedford, Indiana 47421

Dear Mr. Morris:

Re: NPDES Permit No. IN0003573
Draft Permit Modification
General Motors LLC – GPS Bedford
Bedford, IN – Lawrence County

Your request for a permit modification has been reviewed and processed in accordance with rules adopted under 327 IAC 5. Enclosed is a copy of the draft permit modification.

Pursuant to IC 13-15-5-1, IDEM will publish the draft permit document online at <https://www.in.gov/idem/public-notice/>. Additional information on public participation can be found in the "Citizens' Guide to IDEM", available at <https://www.in.gov/idem/resources/citizens-guide-to-idem/>. A 30-day comment period is available to solicit input from interested parties, including the public.

Please review this draft permit modification and associated documents carefully to become familiar with the proposed terms and conditions. Comments concerning the draft permit modification should be submitted in accordance with the procedure outlined in the enclosed public notice form. We suggest that you meet with us to discuss major concerns or objections you may have with the draft permit modification. Questions concerning this draft permit modification may be addressed to Taylor Wissel of my staff, at 317/234-4260 or twissel@idem.in.gov.

Sincerely,

Nikki Gardner

Nikki Gardner, Chief
Industrial NPDES Permits Section
Office of Water Quality

Enclosures



A State that Works

cc: Lawrence County Health Department
Nathan Milliman, General Motors LLC
Kevin Hotz, IDEM
Chief, Permits Section, U.S. EPA, Region 5

STATE OF INDIANA
DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
AMENDED AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM

In compliance with the provisions of the Federal Water Pollution Control Act, as amended, (33 U.S.C. 1251 et seq., the "Clean Water Act" or "CWA"), and IDEM's permitting authority under IC 13-15,

GENERAL MOTORS LLC – GPS BEDFORD

is authorized to discharge from an aluminum die casting and foundry facility located at 105 GM Drive, Bedford, Indiana, to receiving waters named an unnamed tributary to Pleasant Run in accordance with effluent limitations, monitoring requirements, and other conditions set forth in Parts I and II hereof.

The permit, as issued on April 16, 2020, is hereby amended, as contained herein. The amended provisions shall become effective _____. All terms and conditions of the permit not modified at this time remain in effect. Further, any existing condition or term affected by the amendments will remain in effect until the amended provisions become effective. This permit may be revoked for the nonpayment of applicable fees in accordance with IC 13-18-20.

This permit and the authorization to discharge, as amended, shall expire at midnight April 30, 2025. In order to receive authorization to discharge beyond the date of expiration, the permittee shall submit such information and forms as are required by the Indiana Department of Environmental Management no later than 180 days prior to the date of expiration.

Issued on _____ for the Indiana Department
of Environmental Management.

Jerry Dittmer, Chief
Permits Branch
Office of Water Quality

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2. The permittee is authorized to discharge from the outfall listed below in accordance with the terms and conditions of this permit. The permittee is authorized to discharge from Outfall 003, located at Latitude 38° 52' 49.48", Longitude -86° 28' 47.16". The discharge is limited to process wastewater, non-process wastewaters, and storm water. Samples taken in compliance with the monitoring requirements below shall be taken at a point representative of the discharge but prior to entry into the unnamed tributary to Pleasant Run. Such discharge shall be limited and monitored by the permittee as specified below:

DISCHARGE LIMITATIONS [1][2][10]

Outfall 003

Table 1

<u>Parameter</u>	<u>Quantity or Loading</u>			<u>Quality or Concentration</u>			<u>Monitoring Requirements</u>	
	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Monthly Average</u>	<u>Daily Maximum</u>	<u>Units</u>	<u>Measurement Frequency</u>	<u>Sample Type</u>
Flow	Report	Report	MGD	-----	-----	-----	5 X Weekly	24-Hr. Total
TSS	3.0	7.6	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Composite
Oil & Grease	2.0	6.0	lbs/day	Report	Report	mg/l	1 X Monthly	Grab
Zinc [4]	0.19	0.33	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Composite
Phenol	0.18	0.18	lbs/day	Report	Report	mg/l	1 X Monthly	Grab
Copper [4]	0.08	0.15	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Composite
Lead [4]	0.08	0.16	lbs/day	Report	Report	mg/l	1 X Monthly	24-Hr. Composite
TRC [5][6]	-----	-----	-----	0.01	0.02	mg/l	1 X Weekly	Grab
PCBs [5][6]	-----	-----	-----	0.0006	0.0013	ug/l	1 X Monthly	24-Hr. Composite
Mercury [4][7]	-----	-----	-----	12	20	ng/l	6 X Annually	Grab
Ammonia (as N)								
Summer [8]	-----	-----	-----	1.48	3.43	mg/l	1 X Weekly	24-Hr. Composite
Winter [8]	-----	-----	-----	1.52	3.54	mg/l	1 X Weekly	24-Hr. Composite
BOD ₅								
Summer [8]	-----	-----	-----	10.0	20.0	mg/l	3 X Weekly	24-Hr. Composite
Winter [8]	-----	-----	-----	15.0	30.0	mg/l	3 X Weekly	24-Hr. Composite
Temperature [9]	-----	-----	-----	Report	Report	°F	1 X Monthly	Grab
WET Testing				See Part I.F. of this Permit for WET Testing Requirements				

Table 2

<u>Parameter</u>	<u>Quality or Concentration</u>		<u>Units</u>	<u>Monitoring Requirements</u>	
	<u>Daily Minimum</u>	<u>Daily Maximum</u>		<u>Measurement Frequency</u>	<u>Sample Type</u>
pH [3]	6.0	9.0	s.u.	1 X Weekly	Grab

- [1] See Part I.B. of the permit for the minimum narrative limitations.
- [2] In the event that a new water treatment additive is to be used that will contribute to this Outfall, or changes are to be made in the use of water treatment additives, including dosage, the permittee must apply for and receive approval from IDEM prior to such discharge. Discharges of any such additives must meet Indiana water quality standards. The permittee must apply for permission to use water treatment additives by completing and submitting State Form 50000 (Application for Approval to Use Water Treatment Additives) currently available at: <http://www.in.gov/idem/5157.htm>
- [3] If the permittee collects more than one grab sample on a given day for pH, the values shall not be averaged for reporting daily maximums or daily minimums. The permittee must report the individual minimum and the individual maximum pH value of any sample during the month on the Monthly Monitoring Report form.
- [4] The permittee shall measure and report the identified metal as total recoverable metal.
- [5] The water quality-based effluent limits (WQBELs) for Total Residual Chlorine (TRC) and PCBs are less than the limit of quantitation (LOQ) as specified in footnote [6]. Compliance with this permit will be demonstrated if the effluent concentrations measured are less than the LOQ.

If the measured concentration of TRC or PCBs is greater than the water quality-based effluent limitations and above the respective LOD specified in footnote [6] in any three (3) consecutive analyses, or any five (5) out of nine (9) analyses, then the discharger shall:

- (1) Determine the source of the parameter through an evaluation of sampling techniques, analytical/laboratory procedures, and waste streams (including internal waste streams); and re-examine the chlorination /dechlorination procedures.
- (2) The sampling and analysis for TRC and PCBs shall be increased to 2 X Weekly and 2 X Monthly, respectively, and remain at this increased sampling frequency until:
 - (a) The increased sampling frequency for TRC and PCBs has been in place for at least five weeks and five months, respectively;
 - (b) At least nine (9) samples have been taken under this increased sampling frequency; and

- (c) The measured concentration of TRC or PCBs is less than the LOD specified in footnote [6] in at least seven (7) out of the nine (9) most recent analyses.

- [6] The following EPA approved test methods and associated LODs and LOQs are to be used in the analysis of the effluent samples. Alternative methods may be used if first approved by IDEM and EPA, if applicable.

<u>Parameter</u>	<u>Test Method</u>	<u>LOD</u>	<u>LOQ</u>
Chlorine, Total residual	4500-Cl D-2000, E-2000 or G-2000	0.02 mg/l	0.06 mg/l
*Total PCBs	608	0.1 µg/l	0.3 µg/l
*Total PCBs is the sum of the following aroclors: PCB-1016, PCB-1221, PCB-1232, PCB-1242, PCB-1248, PCB-1254, and PCB-1260.			

Case-Specific LOD/LOQ

The permittee may determine and use a case-specific LOD or LOQ using the analytical method specified above, or any other analytical method which is approved by the Commissioner, and EPA if applicable, prior to use. The LOD shall be derived by the procedure specified for method detection limits contained in 40 CFR Part 136, Appendix B, and the LOQ shall be set equal to 3.18 times the LOD. Other methods may be used if first approved by the Commissioner.

- [7] Mercury monitoring shall be conducted 6 X annually in the months of February, April, June, August, October, and December of each year for the term of the permit using EPA Test Method 1631, Revision E.

<u>Parameter</u>	<u>Test Method</u>	<u>LOD</u>	<u>LOQ</u>
Mercury	1631E	0.2 ng/l	0.5 ng/l

- [8] Summer limitations apply from May 1 through November 30. Winter limitations apply from December 1 through April 30.

- [9] The following conditions apply for Temperature outside the mixing zone:
- (1) There shall be no abnormal temperature changes that may adversely affect aquatic life unless caused by natural conditions.
 - (2) The normal daily and seasonal temperature fluctuations that existed before the addition of heat due to other than natural causes shall be maintained.
 - (3) The maximum temperature rise at any time or place above natural shall not exceed five (5) degrees Fahrenheit (two and eight-tenths (2.8) degrees Celsius) in streams.
- [10] The Storm Water Monitoring and Non-Numeric Effluent Limits and the Storm Water Pollution Prevention Plan (SWPPP) requirements can be found in Part I.D. and I.E. of this permit.

D. STORM WATER MONITORING AND NON-NUMERIC EFFLUENT LIMITS

All storm water discharging via Outfall 003 is treated. Most of the storm water is gravity drained to the storm water lagoon where it is treated through either the storm water treatment filters or pumped into the industrial treatment system. The storm water treatment filters consist of multimedia filters, granular activated carbon, and bag filters prior to discharge through Outfall 003.

IDEM has determined that the collection and treatment of the entire volume of storm water on the site, as is currently done at GM Bedford and described in detail above, fulfills the requirement to meet BAT/BCT. Therefore, additional storm water requirements will not be proposed at this time. The existing controls in place onsite must be maintained as required in the previous permit.

E. STORM WATER POLLUTION PREVENTION PLAN

1. Development of Plan

Within 12 months from the effective date of this permit, the permittee is required to revise and update the current Storm Water Pollution Prevention Plan (SWPPP) for the permitted facility. The plan shall at a minimum include the following:

- a. Identify potential sources of pollution, which may reasonably be expected to affect the quality of storm water discharges associated with industrial activity from the facility. Storm water associated with industrial activity (defined in 40 CFR 122.26(b)(14)) includes, but is not limited to, the discharge from any conveyance which is used for collecting and conveying storm water and which is directly related to manufacturing, processing or materials storage areas at an industrial plant;
- b. Describe practices and measures to be used in reducing the potential for pollutants to be exposed to storm water; and
- c. Assure compliance with the terms and conditions of this permit.

2. Contents

The plan shall include, at a minimum, the following items:

- (3) The plan must be revised and updated as required. Revised and updated versions of the plan must be implemented on or before three hundred sixty-five (365) days from the effective date of this permit. The Commissioner may grant an extension of this time frame based on a request by the person showing reasonable cause.
- (4) If the permittee has other written plans, required under applicable federal or state law, such as operation and maintenance, spill prevention control and countermeasures (SPCC), or risk contingency plans, which fulfill certain requirements of an SWPPP, these plans may be referenced, at the permittee's discretion, in the appropriate sections of the SWPPP to meet those section requirements.
- (5) The permittee may combine the requirements of the SWPPP with another written plan if:
 - (A) The plan is retained at the facility and available for review;
 - (B) All the requirements of the SWPPP are contained within the plan; and
 - (C) A separate, labeled section is utilized in the plan for the SWPPP requirements.

F. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

To adequately assess the effects of the effluent on aquatic life, the permittee is required by this section of the permit to conduct chronic whole effluent toxicity (WET) testing. Part I.F.1. of this permit describes the testing procedures and Part I.F.2. describes the toxicity reduction evaluation (TRE) which is only required if the effluent demonstrates toxicity in two (2) consecutive toxicity tests as described in Part I.F.1.f.

1. Whole Effluent Toxicity (WET) Tests

The permittee must conduct the series of aquatic toxicity tests specified in Part I.F.1.d. to monitor the acute and chronic toxicity of the effluent discharged from Outfall 003.

If toxicity is demonstrated in two (2) consecutive toxicity tests, as described in Part I.F.1.f., with any test species during the term of the permit, the permittee is required to conduct a TRE under Part I.F.2.

a. Toxicity Test Procedures and Data Analysis

- (1) All test organisms, test procedures and quality assurance criteria used must be in accordance with the Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Water to Freshwater Organisms, Fourth Edition, Section 11, Fathead Minnow (*Pimephales promelas*) Larval Survival and Growth Test Method 1000.0, and Section 13, Daphnid (*Ceriodaphnia dubia*) Survival and Reproduction Test Method 1002.0, EPA 821-R-02-013, October 2002 (hereinafter "Chronic Toxicity Test Method"), or most recent update that conforms to the version of 40 CFR 136 incorporated by reference in 327 IAC 5. [References to specific portions of the Chronic Toxicity Test Method contained in this Part I.F. are provided for informational purposes. If the Chronic Toxicity Test Method is updated, the corresponding provisions of that updated method would be applicable.]
- (2) Any circumstances not covered by the above methods, or that require deviation from the specified methods must first be approved by the IDEM Permits Branch.
- (3) The determination of acute and chronic endpoints of toxicity (LC₅₀, NOEC and IC₂₅ values) must be made in accordance with the procedures in Section 9, "Chronic Toxicity Test Endpoints and Data Analysis" and the Data Analysis procedures as outlined in Section 11 for fathead minnow (Test Method 1000.0; see flowcharts in Figures 5, 6 and 9) and Section 13 for *Ceriodaphnia dubia* (Test Method 1002.0; see flowcharts in Figures 4 and 6) of the Chronic Toxicity Test Method. The IC₂₅ value together with 95% confidence intervals calculated by the Linear Interpolation and Bootstrap Methods in Appendix M of the Chronic Toxicity Test Method must be determined in addition to the NOEC value.

b. Types of Whole Effluent Toxicity Tests

- (1) Tests may include a 3-brood (7-day) definitive static-renewal daphnid (*Ceriodaphnia dubia*) survival and reproduction toxicity test and a 7-day definitive static-renewal fathead minnow (*Pimephales promelas*) larval survival and growth toxicity test.

- (2) All tests must be conducted using 24-hour composite samples of final effluent. Three effluent samples are to be collected on alternate days (e.g., collected on days one, three and five). The first effluent sample will be used for test initiation and for test solution renewal on day 2. The second effluent sample will be used for test solution renewal on days 3 and 4. The third effluent sample will be used for test solution renewal on days 5, 6 and 7. If shipping problems are encountered with renewal samples after a test has been initiated, the most recently used sample may continue to be used for test renewal, if first approved by the IDEM Permits Branch, but for no longer than 72 hours after first use.
- (3) The whole effluent dilution series for the definitive test must include a control and at least five effluent concentrations with a minimum dilution factor of 0.5. The effluent concentrations selected must include and, if practicable, bracket the effluent concentrations associated with the determinations of acute and chronic toxicity provided in Part I.F.1.f. Guidance on selecting effluent test concentrations is included in Section 8.10 of the Chronic Toxicity Test Method. The use of an alternate procedure for selecting test concentrations must first be approved by the IDEM Permits Branch.
- (4) If, in any control, more than 10% of the test organisms die in the first 48 hours with a daphnid species or the first 96 hours with fathead minnow, or more than 20% of the test organisms die in 7 days, that test is considered invalid and the toxicity test must be repeated. In addition, if in the *Ceriodaphnia dubia* survival and reproduction test, the average number of young produced per surviving female in the control group is less than 15, or if 60% of surviving control females have less than three broods; and in the fathead minnow (*Pimephales promelas*) survival and growth test, if the mean dry weight of surviving fish in the control group is less than 0.25 mg, that test is considered invalid and must also be repeated. All other test conditions and test acceptability criteria for the fathead minnow (*Pimephales promelas*) and *Ceriodaphnia dubia* chronic toxicity tests must be in accordance with the test requirements in Section 11 (Test Method 1000.0), Table 1 and Section 13 (Test Method 1002.0), Table 3, respectively, of the Chronic Toxicity Test Method.

c. Effluent Sample Collection and Chemical Analysis

- (1) Whole effluent samples taken for the purposes of toxicity testing must be 24-hour composite samples collected at a point that is representative of the final effluent, but prior to discharge. Effluent sampling for the toxicity testing may be coordinated with other permit sampling requirements as appropriate to avoid duplication. First use of the whole effluent toxicity testing samples must not exceed 36 hours after termination of the 24-hour composite sample collection and must not be used for longer than 72 hours after first use. For discharges of less than 24 hours in duration, composite samples must be collected for the duration of the discharge within a 24-hour period (see "24-hour composite sample" definition in Part I.C.3. of this permit).
- (2) Chemical analysis must accompany each effluent sample taken for toxicity testing, including each sample taken for the repeat testing as outlined in Part I.F.1.f.(3). The chemical analysis detailed in Part I.A.1. must be conducted for the effluent sample in accordance with Part I.C.4. of this permit.

d. Toxicity Testing Species, Frequency and Duration

Within 90 days of the effective date of the permit, the permittee must initiate chronic toxicity testing for *Ceriodaphnia dubia* and fathead minnow (*Pimephales promelas*). The testing must be conducted monthly for a period of three (3) consecutive months.

If no toxicity is demonstrated in two (2) consecutive tests as described in Part I.F.1.f., with either species in these three (3) monthly tests, the permittee may reduce the number of species tested to only include the species demonstrated to be most sensitive to the toxicity in the effluent. The permittee must then conduct chronic toxicity testing once every six (6) months, as calculated from six (6) months after the effective date of the permit, for the duration of the permit. The permittee must notify the Compliance Data Section under Part I.F.1.e. prior to reducing the number of species tested to the one most sensitive to the toxicity in the effluent.

If a TRE is initiated during the term of the permit, after receiving notification under Part I.F.1.e, the Compliance Data Section will suspend the toxicity testing requirements above for the term of the TRE compliance schedule described in Part I.F.2. After successful completion of the TRE, the toxicity tests established under Part I.F.2.c.(4) must be conducted once every six (6) months, as calculated from the first day of the first month following successful completion of the post-TRE toxicity tests (see Part I.F.2.c.(4)), for the remainder of the permit term.

e. Reporting

- (1) Notifications of intent to reduce the number of species tested to the one most sensitive to the toxicity in the effluent under Part I.F.1.d., or notifications of the failure of two (2) consecutive toxicity tests and the intent to begin the implementation of a toxicity reduction evaluation (TRE) under Part I.F.1.f.(4) must be submitted in writing to the Compliance Data Section of IDEM's Office of Water Quality.
- (2) Results of all toxicity tests, including invalid tests, must be reported to IDEM according to the general format and content recommended in the Chronic Toxicity Test Method, Section 10, "Report Preparation and Test Review". However, only the results of valid toxicity tests are to be reported on the discharge monitoring report (DMR). For the initial three (3) monthly tests, the results of the toxicity tests and laboratory report are due by the 28th day of the month following the fourth, fifth and sixth months, as calculated from the effective date of the permit. Thereafter, the results of the toxicity tests and laboratory report are due by the earlier of 60 days after completion of the test or the 28th day of the month following the end of the period established in Part I.F.1.d.
- (3) The full whole effluent toxicity (WET) test laboratory report must be submitted to IDEM electronically as an attachment to an e-mail to the Compliance Data Section at wwreports@idem.IN.gov. The results must also be submitted via NetDMR.

- (4) For quality control and ongoing laboratory performance, the laboratory report must include results from appropriate standard reference toxicant tests. This will consist of acute (LC_{50} values), if available, and chronic (NOEC, LOEC and IC_{25} values) endpoints of toxicity obtained from reference toxicant tests conducted within 30 days of the most current effluent toxicity tests and from similarly obtained historical reference toxicant data with mean values and appropriate ranges for each species tested for at least three months to one year. Toxicity test laboratory reports must also include copies of chain-of-custody records and laboratory raw data sheets.
- (5) Statistical procedures used to analyze and interpret toxicity data (e.g., Fisher's Exact Test and Steel's Many-one Rank Test for 7-day survival of test organisms; tests of normality (e.g., Shapiro-Wilk's Test) and homogeneity of variance (e.g., Bartlett's Test); appropriate parametric (e.g., Dunnett's Test) and non-parametric (e.g., Steel's Many-one Rank Test) significance tests and point estimates (IC_{25}) of effluent toxicity, etc.; together with graphical presentation of survival, growth and reproduction of test organisms), including critical values, levels of significance and 95% confidence intervals, must be described and included as part of the toxicity test laboratory report.
- (6) For valid toxicity tests, the whole effluent toxicity (WET) test laboratory report must include a summary table of the results for each species tested as shown in the table presented below. This table will provide toxicity test results, reported in acute toxic units (TU_a) and chronic toxic units (TU_c), for evaluation under Part I.F.1.f. and reporting on the discharge monitoring report (DMR).

Test Organism [1]	Test Type	Endpoint [2]	Units	Result	Compliance Limit [6]	Pass/Fail [7]	Reporting
<i>Ceriodaphnia dubia</i>	3-brood (7-day) Definitive Static-Renewal Survival and Reproduction	48-hr. LC ₅₀	%	Report			Laboratory Report
			TU _a	Report			
		NOEC Survival	%	Report			
			TU _c	Report			
		NOEC Reproduction	%	Report			
			TU _c	Report			
		IC ₂₅ Reproduction	%	Report			
			TU _c	Report			
<i>Pimephales promelas</i>	7-day Definitive Static-Renewal Larval Survival and Growth	Toxicity (acute) [3]	TU _a	Report [5]	1.0	Report	Laboratory Report and NetDMR (Parameter Code 61425)
			TU _c	Report [5]	1.0	Report	Laboratory Report and NetDMR (Parameter Code 61426)
		96-hr. LC ₅₀	%	Report			Laboratory Report
			TU _a	Report			
		NOEC Survival	%	Report			
			TU _c	Report			
		NOEC Growth	%	Report			
			TU _c	Report			
		IC ₂₅ Growth	%	Report			
			TU _c	Report			
		Toxicity (acute) [3]	TU _a	Report [5]	1.0	Report	Laboratory Report and NetDMR (Parameter Code 61427)
			TU _c	Report [5]	1.0	Report	Laboratory Report and NetDMR (Parameter Code 61428)

[1] For the whole effluent toxicity (WET) test laboratory report, eliminate from the table any species that was not tested.

[2] A separate acute test is not required. The endpoint of acute toxicity must be extrapolated from the chronic toxicity test.

[3] The toxicity (acute) endpoint for *Ceriodaphnia dubia* is the 48-hr. LC₅₀ result reported in acute toxic units (TU_a). The toxicity (acute) endpoint for *Pimephales promelas* is the 96-hr. LC₅₀ result reported in acute toxic units (TU_a).

[4] The toxicity (chronic) endpoint for *Ceriodaphnia dubia* is the higher of the NOEC Survival, NOEC Reproduction and IC₂₅ Reproduction values reported in chronic toxic units (TU_c). The toxicity (chronic) endpoint for *Pimephales promelas* is the higher of the NOEC Survival, NOEC Growth and IC₂₅ Growth values reported in chronic toxic units (TU_c).

[5] Report the values for acute and chronic endpoints of toxicity determined in [3] and [4] for the corresponding species. These values are the ones that need to be reported on the discharge monitoring report (DMR).

[6] These values do not represent effluent limitations, but rather exceedance of these values results in a demonstration of toxicity that triggers additional action and reporting by the permittee.

[7] If the toxicity result (in TUs) is less than or equal to the compliance limit, report "Pass". If the toxicity result (in TUs) exceeds the compliance limit, report "Fail".

f. Demonstration of Toxicity

- (1) Toxicity (acute) will be demonstrated if the effluent is observed to have exceeded 1.0 TU_a (acute toxic units) for *Ceriodaphnia dubia* in 48 hours or in 96 hours for *Pimephales promelas*. For this purpose, a separate acute toxicity test is not required. The results for the acute toxicity demonstration must be extrapolated from the chronic toxicity test. For the purpose of selecting test concentrations under Part I.F.1.b.(2), the effluent concentration associated with acute toxicity is 100%.
- (2) Toxicity (chronic) will be demonstrated if the effluent is observed to have exceeded 1.0 TU_c (chronic toxic units) for *Ceriodaphnia dubia* or *Pimephales promelas* from the chronic toxicity test. For the purpose of selecting test concentrations under Part I.F.1.b.(2), the effluent concentration associated with chronic toxicity is 100%.
- (3) If toxicity (acute) or toxicity (chronic) is demonstrated in any of the chronic toxicity tests specified above, a repeat chronic toxicity test using the procedures in Part I.F.1. of this permit and the same test species must be initiated within two (2) weeks of test failure. During the sampling for any repeat tests, the permittee must also collect and preserve sufficient effluent samples for use in any toxicity identification evaluation (TIE) and/or toxicity reduction evaluation (TRE), if necessary.

- (4) If any two (2) consecutive chronic toxicity tests, including any and all repeat tests, demonstrate acute or chronic toxicity, the permittee must notify the Compliance Data Section under Part I.F.1.e. within 30 days of the date of termination of the second test, and begin the implementation of a toxicity reduction evaluation (TRE) as described in Part I.F.2. After receiving notification from the permittee, the Compliance Data Section will suspend the whole effluent toxicity testing requirements in Part I.F.1. for the term of the TRE compliance schedule.

g. Definitions

- (1) "Acute toxic unit" or "TU_a" is defined as $100/LC_{50}$ where the LC_{50} is expressed as a percent effluent in the test medium of an acute whole effluent toxicity (WET) test that is statistically or graphically estimated to be lethal to fifty percent (50%) of the test organisms.
- (2) "Chronic toxic unit" or "TU_c" is defined as $100/NOEC$ or $100/IC_{25}$, where the NOEC or IC_{25} are expressed as a percent effluent in the test medium.
- (3) "Inhibition concentration 25" or "IC₂₅" means the toxicant (effluent) concentration that would cause a twenty-five percent (25%) reduction in a nonquantal biological measurement for the test population. For example, the IC_{25} is the concentration of toxicant (effluent) that would cause a twenty-five percent (25%) reduction in mean young per female or in growth for the test population.
- (4) "No observed effect concentration" or "NOEC" is the highest concentration of toxicant (effluent) to which organisms are exposed in a full life cycle or partial life cycle (short term) test, that causes no observable adverse effects on the test organisms, that is, the highest concentration of toxicant (effluent) in which the values for the observed responses are not statistically significantly different from the controls.

2. Toxicity Reduction Evaluation (TRE) Schedule of Compliance

The development and implementation of a TRE is only required if toxicity is demonstrated in two (2) consecutive tests as described in Part I.F.1.f.(4). The post-TRE toxicity testing requirements in Part I.F.2.c. must also be completed as part of the TRE compliance schedule.

Milestone Dates: See a. through e. below for more detail on the TRE milestone dates.

Requirement	Deadline
Development and Submittal of a TRE Plan	Within 90 days of the date of two (2) consecutive failed toxicity tests.
Initiate a TRE Study	Within 30 days of TRE Plan submittal.
Submit TRE Progress Reports	Every 90 days beginning six (6) months from the date of two (2) consecutive failed toxicity tests.
Post-TRE Toxicity Testing Requirements	Immediately upon completion of the TRE, conduct three (3) consecutive months of toxicity tests with both test species; if no acute or chronic toxicity is shown with any test species, reduce toxicity tests to once every six (6) months for the remainder of the permit term. If post-TRE toxicity testing demonstrates toxicity, continue the TRE study.
Submit Final TRE Report	Within 90 days of successfully completing the TRE (including the post-TRE toxicity testing requirements), not to exceed three (3) years from the date that toxicity is initially demonstrated in two (2) consecutive toxicity tests.

a. Development of TRE Plan

Within 90 days of the date of two (2) consecutive failed toxicity tests (i.e. the date of termination of the second test), the permittee must submit plans for an effluent TRE to the Compliance Data Section. The TRE plan must include appropriate measures to characterize the causative toxicants and reduce toxicity in the effluent discharge to levels that demonstrate no toxicity with any test species as described in Part I.F.1.f. Guidance on conducting effluent toxicity reduction evaluations is available from EPA and from the EPA publications listed below:

(1) Methods for Aquatic Toxicity Identification Evaluations:

Phase I Toxicity Characterization Procedures, Second Edition (EPA/600/6-91/003), February 1991.

Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/080), September 1993.

Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (EPA/600/R-92/081), September 1993.

- (2) Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I (EPA/600/6-91/005F), May 1992.
- (3) Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs) (EPA/600/2-88/070), April 1989.
- (4) Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program, U.S. EPA, March 27, 2001.

b. Conduct the TRE

Within 30 days after submittal of the TRE plan to the Compliance Data Section, the permittee must initiate the TRE consistent with the TRE plan.

c. Post-TRE Toxicity Testing Requirements

- (1) After completing the TRE, the permittee must conduct monthly post-TRE toxicity tests with the two (2) test species *Ceriodaphnia dubia* and fathead minnow (*Pimephales promelas*) for a period of three (3) consecutive months.
- (2) If the three (3) monthly tests demonstrate no toxicity with any test species as described in Part I.F.1.f., the TRE will be considered successful. Otherwise, the TRE study must be continued.
- (3) The post-TRE toxicity tests must be conducted in accordance with the procedures in Part I.F.1. The results of these tests must be submitted as part of the final TRE Report required under Part I.F.2.d.
- (4) After successful completion of the TRE, the permittee must resume the chronic toxicity tests required in Part I.F.1. The permittee may reduce the number of species tested to only include the species demonstrated to be most sensitive to the toxicity in the effluent. The established starting date for the frequency in Part I.F.1.d. is the first day of the first month following successful completion of the post-TRE toxicity tests.

d. Reporting

- (1) Progress reports must be submitted every 90 days to the Compliance Data Section beginning six (6) months from the date of two (2) consecutive failed toxicity tests. Each TRE progress report must include a listing of proposed activities for the next quarter and a schedule to reduce toxicity in the effluent discharge to acceptable levels through control of the toxicant source or treatment of whole effluent.
- (2) Within 90 days of successfully completing the TRE, including the three (3) consecutive monthly tests required as part of the post-TRE toxicity testing requirements in Part I.F.2.c., the permittee must submit to the Compliance Data Section a final TRE Report that includes the following:
 - (A) A discussion of the TRE results;
 - (B) The starting date established under Part I.F.2.c.(4) for the continuation of the toxicity testing required in Part I.F.1.; and
 - (C) If applicable, the intent to reduce the number of species tested to the one most sensitive to the toxicity in the effluent under Part I.F.2.c.(4).

e. Compliance Date

The permittee must complete items a., b., c., and d. from Part I.F.2. and reduce toxicity in the effluent discharge to acceptable levels as soon as possible, but no later than three (3) years from the date that toxicity is initially demonstrated in two (2) consecutive toxicity tests (i.e., the date of termination of the second test) as described in Part I.F.1.f.(4).

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G. REOPENING CLAUSES

This permit may be modified, or alternately, revoked and reissued, after public notice and opportunity for hearing:

1. to comply with any applicable effluent limitation or standard issued or approved under 301(b)(2)(C),(D) and (E), 304 (b)(2), and 307(a)(2) of the Clean Water Act, if the effluent limitation or standard so issued or approved:
 - a. contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - b. controls any pollutant not limited in the permit.
2. for any of the causes listed under 327 IAC 5-2-16.
3. to include whole effluent toxicity limitations or to include limitations for specific toxicants if the results of the biomonitoring and/or the TRE study indicate that such limitations are necessary to meet Indiana Water Quality Standards.
4. to include a case-specific Limit of Detection (LOD) and/or Limit of Quantitation (LOQ). The permittee must demonstrate that such action is warranted in accordance with the procedures specified under Appendix B, 40 CFR Part 136, using the most sensitive analytical methods approved by EPA under 40 CFR Part 136, or approved by the Commissioner.



National Pollutant Discharge Elimination System
Fact Sheet for
General Motors LLC – GPS Bedford
Draft modification: September 2021

Indiana Department of Environmental Management

100 North Senate Avenue
Indianapolis, Indiana 46204
(317) 232-8603
Toll Free (800) 451-6027
www.idem.IN.gov

Permittee:	General Motors LLC 300 Renaissance Center Detroit, Michigan 48265
Existing Permit Information:	Permit Number: IN0003573 Expiration Date: April 30, 2025
Facility Contact:	Nathan Milliman, Environmental Engineer (812) 454-3249 or Nathan.milliman@gm.com
Facility Location:	105 GM Drive Bedford, Indiana 47421 Lawrence County
Receiving Stream:	Unnamed Tributary to Pleasant Run
GLI/Non-GLI:	Non-GLI
Proposed Permit Action:	Modify
Date Application Received:	June 10, 2021
Source Category	NPDES Major – Industrial
Permit Writer:	Taylor Wissel, Senior Environmental Manager (317) 234-4260 or twissel@idem.in.gov

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1.0 INTRODUCTION

The Indiana Department of Environmental Management (IDEM) received a request from General Motors LLC – GPS Bedford on June 10, 2021, to modify National Pollutant Discharge Elimination System (NPDES) Permit IN0003573. The current five-year permit was issued with an effective date of May 1, 2020, in accordance with 327 IAC 5-2-6(a).

The Federal Water Pollution Control Act (more commonly known as the Clean Water Act), as amended, (Title 33 of the United States Code (U.S.C.) Section 1251 et seq.), requires an NPDES permit for the discharge of pollutants into surface waters. Furthermore, Indiana law requires a permit to control or limit the discharge of any contaminants into state waters or into a publicly owned treatment works. This proposed permit action by IDEM complies with and implements these federal and state requirements.

In accordance with Title 40 of the Code of Federal Regulations (CFR) Sections 124.8 and 124.56, as well as Title 327 of the Indiana Administrative Code (IAC) Article 5-3-8, a Fact Sheet is required for certain NPDES permits. This document fulfills the requirements established in these regulations. This Fact Sheet was prepared in order to document the factors considered in the development of NPDES Permit effluent limitations. The technical basis for the Fact Sheet may consist of evaluations of promulgated effluent guidelines, existing effluent quality, receiving water conditions, Indiana water quality standards-based wasteload allocations, and other information available to IDEM. Decisions to award variances to Water Quality Standards or promulgated effluent guidelines are justified in the Fact Sheet where necessary. This Fact Sheet also identifies the modified pages of the permit as issued on April 16, 2020.

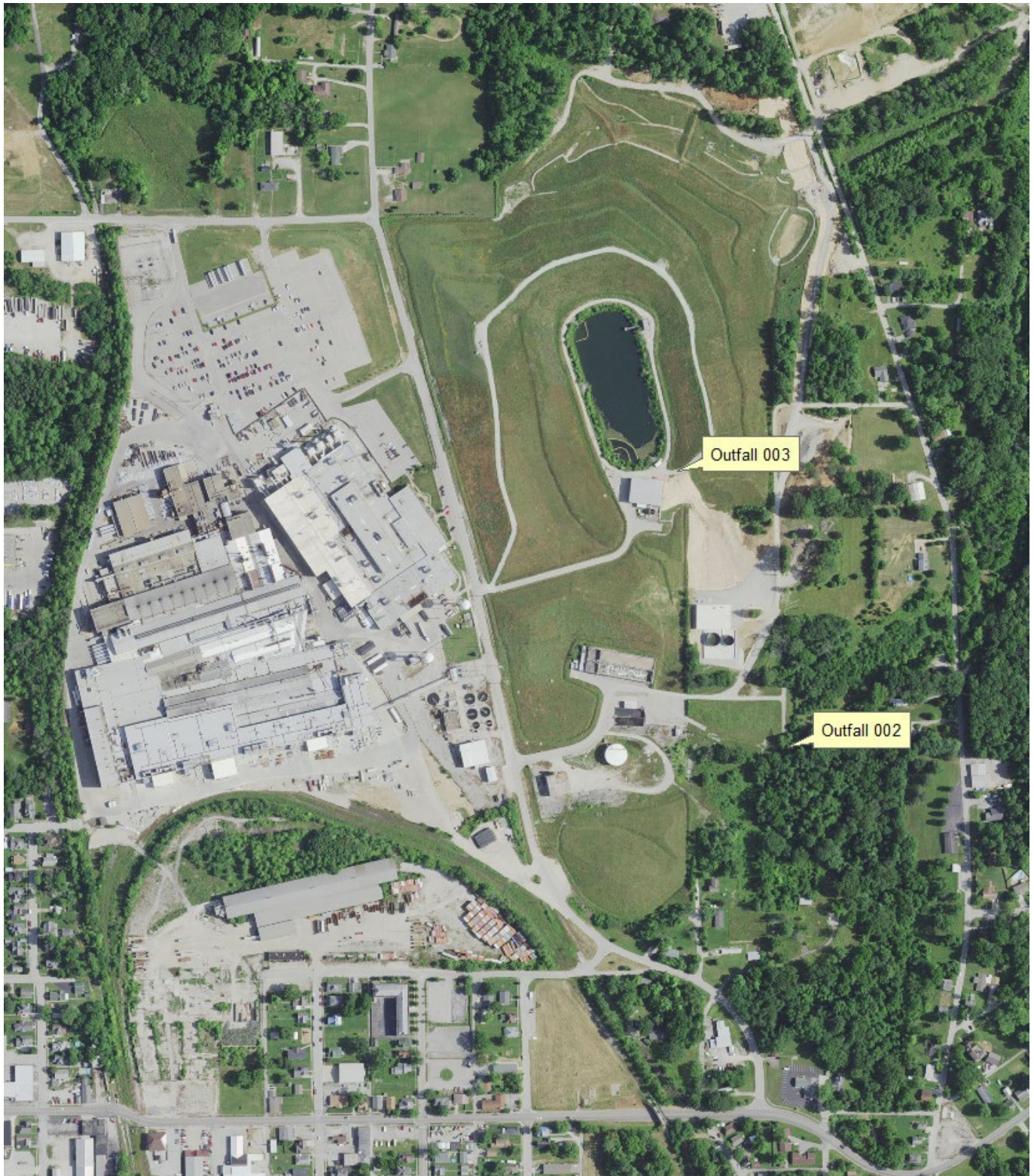
2.0 FACILITY DESCRIPTION

2.1 General

General Motors LLC – GPS Bedford (GM) is classified under Standard Industrial Classification (SIC) Codes 3363 – Aluminum Die Casting and 3365 – Aluminum Foundry.

The facility manufactures aluminum casting products such as transmission casings and engine blocks through the use of die cast machines and semi-permanent molds (SPM). The North Die Cast area contains 21 die cast lines, 18 for the manufacture of transmission cases and torque converters, and 3 for small gas engine (SGE) blocks. South Die Cast has 2 High Integrity Die Cast (HIDC) machines, 2 SGE machines, and 4 CSS (small gas engines) machines. The SPM area contains 4 Core Make lines that produce sand cores, 4 cast lines that produce heads for 6- and 8-cylinder engines, and 3 pre-machining lines to clean up castings prior to shipping. The source water for the facility is obtained from the City of Bedford. A map showing the location of the facility has been included as Figure 1.

Figure 1: Facility Location/Site Map



105 GM Drive
Bedford, Indiana 47421
Lawrence County

2.2 Outfall Locations

Outfall 002	Latitude:	38° 52' 39.96"
	Longitude:	-86° 28' 42.32"
Outfall 003	Latitude:	38° 52' 49.48"
	Longitude:	-86° 28' 47.16"

3.0 PERMIT MODIFICATION

3.1 Modification Request

GM is requesting to modify the permit to consolidate wastestreams and eliminate Outfall 002. GM stated in the modification request that these changes would eliminate the ultra-filtration (UF)/Membrane Biological Reactor (MBR) chemical usage as well as remove the oily wastewater stream from the UF. The modification would also lead to additional storage capacity in the treatment system to manage water flow surges.

GM is requesting the removal of Part I.A.1. and all subsequent references to Outfall 002 in the Permit. GM also requests that all references to the UF/MBR system be removed and that the "Legacy" system be changed to the "Aeration/DAF Biological System". GM provided updated flow diagrams and treatment descriptions in the modification request which is covered in Section 3.2 below.

3.2 Wastewater Treatment

The wastewater treatment system treats a variety of process and non-process wastewater, as well as some stormwater. The treatment system is divided into three processes:

1. Oil Water Separator/T900 Aerated Holding Tank
2. Aeration/DAF Biological System
3. Storm Water Lagoon/Mixed Media Filtration System

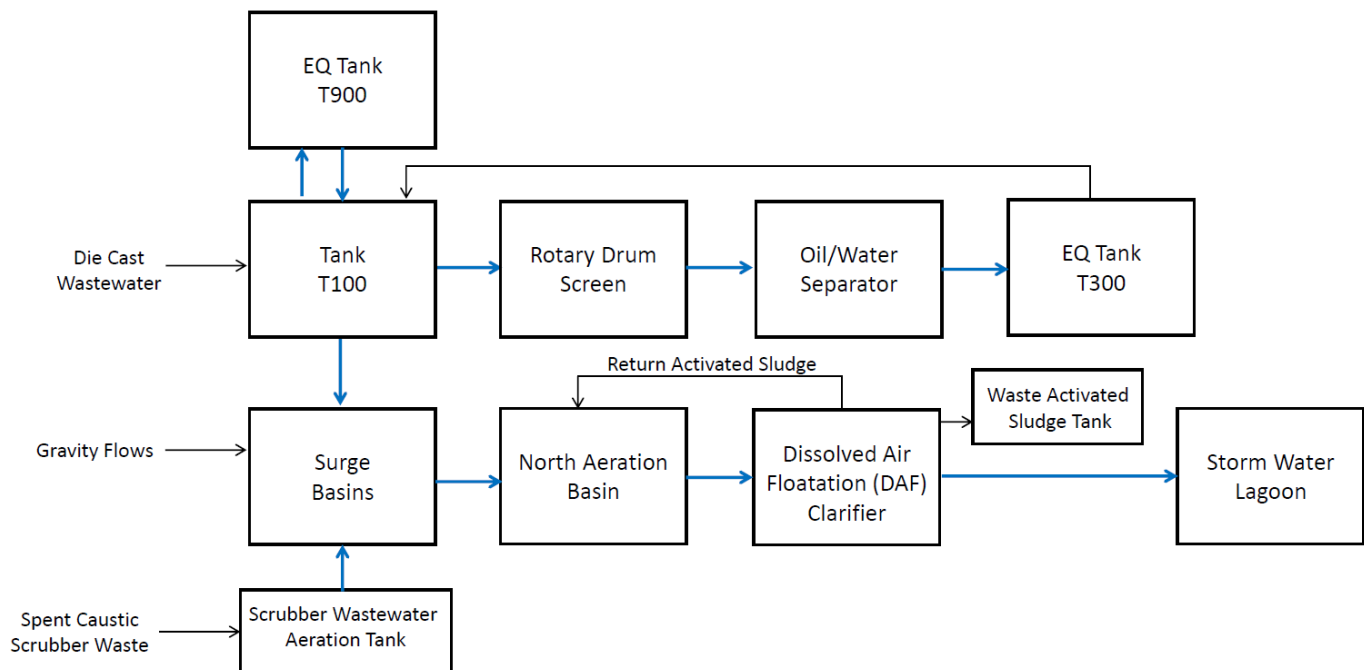
Oil Water Separator/T900 Aerated Holding Tank

Typical wastestreams from the manufacturing process include contact and non-contact cooling water, hydraulic fluid leaks, blowdown, heat treat quench water, corrective action waste streams, storm water, and maintenance and janitorial wastes associated with the manufacturing process. There is also storm water that is gravity drained to the WWTP with the majority of storm water being directed to the lagoon. Die cast wastewater is pumped directly to tank T100 where it can be directed to an aerated equalization tank (T900) or processed through a rotary drum screen and oil-water separator prior to overflow to the Aeration/DAF system. T900 can be utilized to hold wastewater during Aeration/DAF system repairs, flow excursions, and abnormal loading conditions.

Aeration/DAF Biological System

Wastewaters that enter the Aeration/DAF system include discharge from the oil-water separator and gravity flows. All gravity lines lead to an equalization basin (Surge basins) from which the water is pumped into the North Aeration Basin. This is a biologically active tank that processes waste for > 4 days, depending on flow. Effluent from the tank is sent to a dissolved air floatation (DAF) clarifier where it is dosed with a coagulant and flocculants. Solids are skimmed and sent back to the aeration basin as return activated sludge or to a holding tank as waste activated sludge. Waste sludge is pressed, filtered, and disposed of in a TSCA landfill. The filter press filtrate re-enters the treatment system via the surge basin or tank T300. The clear effluent from the DAF is sent to the storm water lagoon for treatment through the mixed media filtration system prior to discharge through Outfall 003. A diagram of the primary treatment system is included as Figure 2 below.

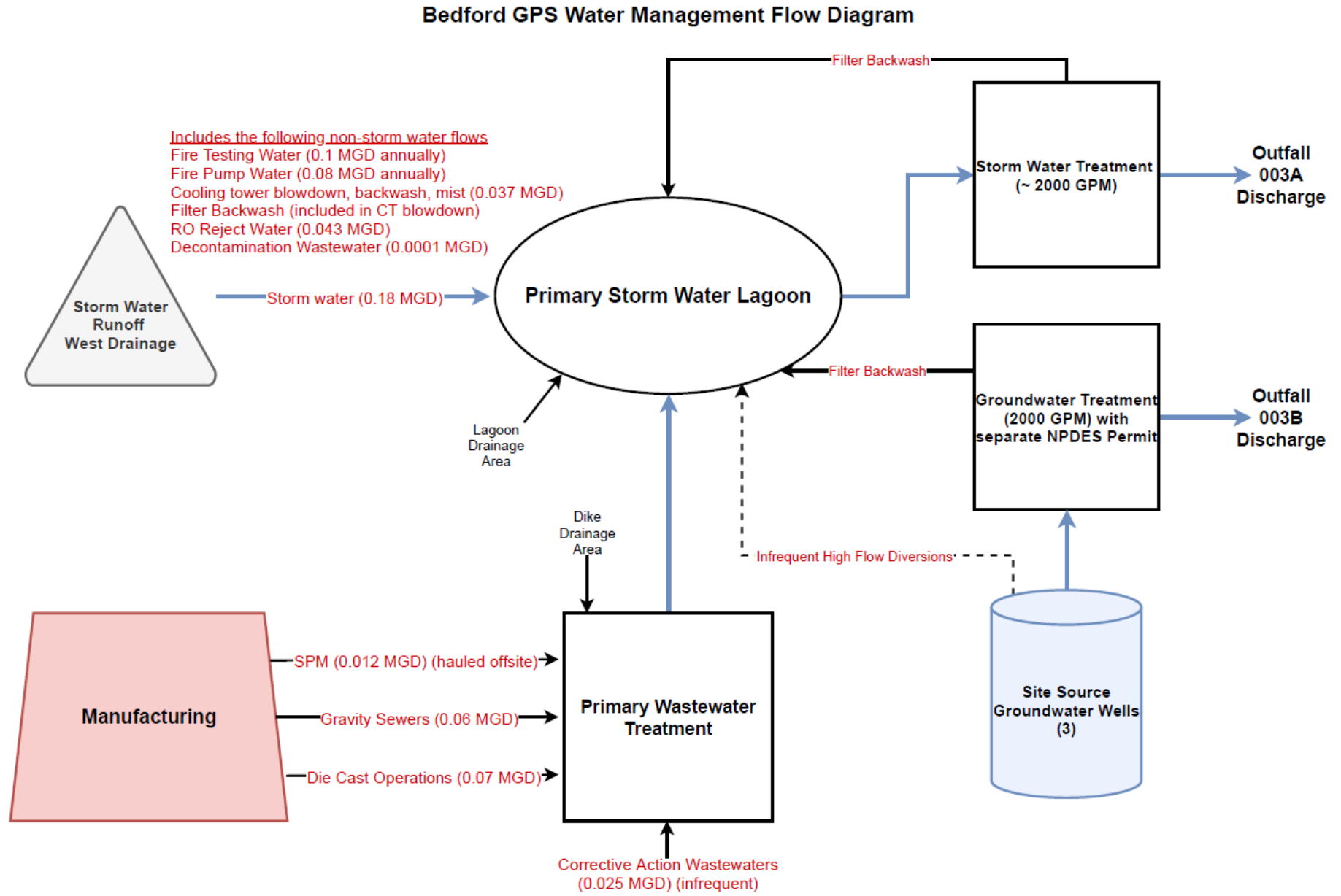
Figure 2: Primary Treatment System



Storm Water Lagoon/Mixed Media Filtration System

The storm water lagoon receives effluent from the aeration/DAF system, storm water, cooling tower blowdown, RO reject water, fire testing water, decontamination wastewater, and corrective action wastewater. The combined wastewater is treated through the mixed media filtration system via coagulation (as needed), sand filtration, granular activated carbon, and bag filters to move the fine-grained solids prior to discharge through Outfall 003. A water balance diagram is included as Figure 3 below.

Figure 3: Water Balance Diagram



3.3 IDEM's Proposed Modification

IDEM is proposing to modify the permit and remove Outfall 002 and references to Outfall 002. Part I.A.1. of the permit will be removed to reflect this change. Part I.D. of the Permit was also modified to remove references to Outfall 002. Effluent limitations at Outfall 003 will be modified to reflect the new commingled discharge and the derivation of effluent limitations is included in Section 4.0 – Permit Limitations below. The modification will require the facility to conduct WET Testing at Outfall 003, and Part I.F. of the Permit has been updated in accordance with those new requirements. Finally, the compliance schedules found in Part I.G of the existing permit are no longer applicable to the facility and are being removed. A reopening clause in Part I.H. (now Part I.G of the modified permit) regarding monitoring waivers at Outfall 002 is also being removed.

4.0 PERMIT LIMITATIONS

4.1 Technology-Based Effluent Limits (TBEL)

TBELs require every individual member of a discharge class or category to operate their water pollution control technologies according to industry-wide standards and accepted engineering practices. TBELs are developed by applying the National Effluent Limitation Guidelines (ELGs) established by EPA for specific industrial categories. Technology-based treatment requirements established pursuant to sections 301(b) and 306 of the CWA represent the minimum level of control that must be imposed in an NPDES permit (327 IAC 5-5-2(a)).

In the absence of ELGs, TBELs can also be established on a case-by-case basis using best professional judgment (BPJ) in accordance with 327 IAC 5-2-10 and 327 IAC 5-5 (which implement 40 CFR 122.44, 125.3, and Section 402(a)(1) of the Clean Water Act (CWA)).

Outfall 003:

The applicable technology-based standards for the General Motors LLC – GPS Bedford facility are contained in 40 CFR 464 – Metal Molding and Casting Point Source Category, Subpart A – Aluminum Casting. The EPA established mass based limitations expressed in terms of allowable pollutant discharge per unit of production or some other measure of production (i.e., production normalized). Appendix A at the end of this Fact Sheet provides a description of applicable subparts, average daily production, and the resulting calculated technology-based effluent limitations by parameter.

4.2 Additional Mass Allocations

The permittee has requested that additional wastewater sources that commingle with process wastewaters be taken into consideration when determining limits for zinc and phenol at Outfall 003. The permittee has requested the following additional allocations:

Zinc

The facility has requested an additional allocation of 0.10 lbs/day based on the following non-categorical sources of wastewater:

<u>Source</u>	<u>Zinc (mg/l)</u>	<u>Flow (MGD)</u>	<u>Loading (lbs/day)</u>
Gravity Sewer	0.029	0.06	0.015
Cooling Towers	0.26	0.037	0.08
Total			0.10

Phenol

The facility has requested an additional allocation of 0.18 lbs/day based on the following non-categorical sources of wastewater:

<u>Source</u>	<u>Phenol (mg/l)</u>	<u>Flow (MGD)</u>	<u>Loading (lbs/day)</u>
Gravity Sewer	0.33	0.06	0.165
Cooling Towers	0.042	0.037	0.013
Total			0.18

The following Table 1 summarizes the TBELs calculated pursuant to 40 CFR 464 – Metal Molding and Casting Point Source Category plus the proposed additional mass allocations from non-categorical wastewater sources.

Table 1: Calculation of TBEL Mass Limitations for Outfall 003

	Daily Maximum (lbs/day)	Monthly Average (lbs/day)
Total Zinc	0.33	0.19
Total Copper	0.15	0.08
Total Lead	0.16	0.08
Total Phenols	0.18	0.18
Oil & Grease	6.0	2.0
TSS	7.6	3.0

4.3 Water Quality-Based Effluent Limits

WQBELs are designed to be protective of the beneficial uses of the receiving water and are independent of the available treatment technology. The WQBELs for this facility are based on water quality criteria in 327 IAC 2-1-6 or developed under the procedures described in 327 IAC 2-1-8.2 through 8.7 and 327 IAC 2-1-8.9, and implementation procedures in 327 IAC 5. Limitations are required for any parameter which has the reasonable potential to exceed a water quality criterion as determined using the procedures under 327 IAC 5-2-11.1(h).

4.4 Effluent Limitations and Monitoring Requirements by Outfall

Under 327 IAC 5-2-10(a) (see also 40 CFR 122.44), NPDES permit requirements are technology-based effluent limitations and standards (including technology-based effluent limitations (TBELs) based on federal effluent limitations guidelines or developed on a case-by-case basis using best professional judgment (BPJ), where applicable), water quality standards-based, or based on other more stringent requirements. The decision to limit or monitor the parameters contained in this permit is based on information contained in the permittee's NPDES application and other available information relating to the facility and the receiving waterbody as well as the applicable federal effluent limitations guidelines. In addition, when renewing a permit, the existing permit limits, the antibacksliding requirements under 327 IAC 5-2-10(a)(11), and the antidegradation requirements under 327 IAC 2-1.3 must be considered.

4.4.1 All External Outfalls (003)

Narrative Water Quality Based Limits

The narrative water quality criteria contained under 327 IAC 2-1-6(a)(1) and (2) have been included in this permit to ensure that these minimum water quality conditions are met.

Flow

The effluent flow is to be monitored in accordance with 327 IAC 5-2-13(a)(2).

4.4.2 Outfall 003

Total Suspended Solids (TSS)

TSS is subject to the technology-based standards contained in 40 CFR 464 – Metal Molding and Casting Point Source Category. The calculations used to determine technology-based effluent limitations are included as Appendix A. For TSS, effluent limitations of 7.6 lbs/day Daily Maximum and 3.0 lbs/day Monthly Average are included in the permit.

Oil and Grease (O&G)

Oil & Grease is subject to the technology-based standards contained in 40 CFR 464 – Metal Molding and Casting Point Source Category. The calculations used to determine technology-based effluent limitations are included as Appendix A. For O&G, effluent limitations of 6.0 lbs/day Daily Maximum and 2.0 lbs/day Monthly Average are included in the permit.

Zinc

Zinc is subject to the technology-based standards contained in 40 CFR 464 – Metal Molding and Casting Point Source Category. The calculations used to determine technology-based effluent limitations are included as Appendix A. Additional allocations for non-categorical wastestreams are included in Section 4.2 of this Fact Sheet.

A Wasteload Allocation (WLA) report dated January 09, 2020 was completed and zinc was evaluated for reasonable potential to exceed (RPE) a water quality criterion from Outfall 003. The results of the RPE analysis showed that zinc had reasonable potential to exceed a water quality criterion. The 2020 WLA included WQBELs of 1.5 lbs/day Daily Maximum and 0.85 lbs/day Monthly Average.

The technology-based effluent limitations are more stringent than the water quality-based effluent limitations, therefore, the technology-based effluent limitations of 0.33 lbs/day Daily Maximum and 0.19 lbs/day Monthly Average are required and have been included in the permit.

Phenol

Phenol is subject to the technology-based standards contained in 40 CFR 464 – Metal Molding and Casting Point Source Category. The calculations used to determine technology-based effluent limitations are included as Appendix A. Additional allocations for non-categorical wastestreams are included in Section 4.2 of this Fact Sheet. For Phenol, effluent limitations of 0.18 lbs/day Daily Maximum and 0.18 Monthly Average are included in the permit.

Copper & Lead

Copper and Lead are subject to the technology-based standards contained in 40 CFR 464 – Metal Molding and Casting Point Source Category. The calculations used to determine technology-based effluent limitations are included as Appendix A.

The facility has previously applied for a monitoring waiver for these pollutants. In accordance with 40 CFR 122.44(a)(2), a discharger subject to technology-based effluent limitations guidelines and standards in a NPDES permit may be authorized to forego sampling of a pollutant found at 40 CFR Subchapter N if the discharger has demonstrated through sampling and other technical factors that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger. IDEM previously granted this monitoring waiver for copper and lead. The facility must reapply for this waiver each permit cycle. A waiver is good only for the term of the permit and is not available during the term of the first permit issued to a discharger. Any request for this waiver must be submitted when applying for a reissued permit or modification of a reissued permit. The request must demonstrate through sampling or other technical information, including information generated during an earlier permit term that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger.

Any grant of the monitoring waiver must be included in the permit as an express permit condition and the reasons supporting the grant must be documented in the permit's fact sheet or statement of basis. This provision does not supersede certification processes and requirements already established in existing effluent limitations guidelines and standards.

Due to the changes to the facility and the new discharge location, IDEM is including the TBELs for copper and lead. Effluent limitations for copper are 0.15 lbs/day Daily Maximum and 0.08 lbs/day Monthly Average. Effluent limitations for lead are 0.16 lbs/day Daily Maximum and 0.08 lbs/day Monthly Average.

Total Residual Chlorine (TRC)

Effluent limitations for TRC have been retained from the previous permit due to the use of city water in processes. The TRC limits are 0.02 mg/l Daily Maximum and 0.01 mg/l Monthly Average. The water quality-based limits for chlorine are less than the limit of quantitation (LOQ) of 0.06 mg/l, therefore, the permittee will be considered in compliance with the permit limits if the effluent concentrations measured are less than the LOQ of 0.06 mg/l.

Polychlorinated Biphenyls (PCBs)

Effluent limitations of 0.0013 ug/l Daily Maximum and 0.0006 ug/l Monthly Average have been retained from the previous permit. PCBs are included in this permit due to historical uses and management of PCB-containing materials on-site. These limitations were developed based on Indiana Water Quality Standards.

Mercury

Effluent limitations of 20 ng/l Daily Maximum and 12 ng/l Monthly Average for mercury have been retained from the previous permit. These limitations are based on a WLA completed by IDEM staff on February 6, 2009.

Ammonia (as N)

Ammonia summer limitations are 3.43 mg/l Daily Maximum and 1.48 mg/l Monthly Average. Winter limitations are 3.54 Daily Maximum and 1.52 mg/l Monthly Average. These limitations are based on a Wasteload Allocation (WLA) performed by IDEM staff on March 17, 1999 and are unchanged from the previous permit.

BOD₅

BOD₅ summer limitations are 20.0 mg/l Daily Maximum and 10.0 mg/l Monthly Average. Winter limitations are 30.0 Daily Maximum and 15.0 mg/l Monthly Average. These limitations are based on a Wasteload Allocation (WLA) performed by IDEM staff on March 17, 1999 and are unchanged from the previous permit.

Temperature

Effluent Limitations for temperature are based on the criteria established in 327 IAC 2-1-6(b)(4).

Total Phosphorus, CBOD, COD, TKN, NO₂/NO₃

Monitoring requirements for the above parameters are being removed as a part of this modification based on a review of the data.

Chloride, Sulfate, and Hardness

Monitoring requirements for chloride, sulfate, and hardness are being removed as part of this modification. The facility has started collecting and hauling the semi-permanent mold wastewater off-site. This wastestream was the source of sulfate in the discharge; therefore, monitoring requirements are no longer required.

pH

Discharges to waters of the state are limited to the range of 6.0-9.0 s.u., in accordance with 327 IAC 2-1-6(b)(2).

4.5 Whole Effluent Toxicity (WET) Testing

Whole effluent toxicity (WET) test requirements are included in the NPDES permit to monitor compliance with the narrative water quality criteria under 327 IAC 2-1-6(a)(1)(E) and (a)(2). 327 IAC 2-1-6(a)(1)(E) requires all surface waters at all times and all places, including the mixing zone, to be free from substances, materials, etc. which are in amounts sufficient to be acutely toxic to or to otherwise severely injure or kill aquatic life, other animals, plants, or humans. 327 IAC 2-1-6(2) requires that all waters outside the mixing zone be free of substances in concentrations that on the basis of available scientific data are believed to be sufficient to injure, be chronically toxic to, or be carcinogenic, mutagenic, or teratogenic to humans, animals, aquatic life, or plants. In addition, under 327 IAC 5-2-11.1(h), IDEM is required to determine whether the discharge causes, or has the reasonable potential to cause or contribute to a violation of these narrative water quality criteria.

Therefore, the permittee is required to conduct WET tests to determine the toxicity of the final effluent. This does not negate the requirement to submit a water treatment additive (WTA) application and/or worksheet for replacement or new additives/chemicals proposed for use at the site.

The current permit had WET testing requirements at Outfall 002. This modification will require the permittee to conduct an initial series of monthly WET tests for three months, then twice annually for the duration of the permit at Outfall 003. See Part I.F. of the Permit for more information on WET testing requirements.

4.6 Antibacksliding

Pursuant to 327 IAC 5-2-10(a)(11), unless an exception applies, a permit may not be renewed, reissued or modified to contain effluent limitations that are less stringent than the comparable effluent limitations in the previous permit. None of the limits included in this permit are less stringent than the comparable effluent limitations in the previous permit, therefore, backsliding is not an issue in accordance with 327 IAC 5-2-10(a)(11).

4.7 Antidegradation

Indiana's Antidegradation Standards and Implementation procedures are outlined in 327 IAC 2-1.3. The antidegradation standards established by 327 IAC 2-1.3-3 apply to all surface waters of the state. The permittee is prohibited from undertaking any deliberate action that would result in a new or increased discharge of a bioaccumulative chemical of concern (BCC) or a new or increased permit limit for a regulated pollutant that is not a BCC unless information is submitted to the commissioner demonstrating that the proposed new or increased discharge will not cause a significant lowering of water quality, or an antidegradation demonstration submitted and approved in accordance 327 IAC 2-1.3-5 and 2-1.3-6.

The NPDES permit does not propose to establish a new or increased loading of a regulated pollutant; therefore, the Antidegradation Implementation Procedures in 327 IAC 2-1.3-5 and 2-1.3-6 do not apply to the permitted discharge.

5.0 PERMIT DRAFT DISCUSSION

5.1 Discharge Limitations, Monitoring Conditions and Rationale

The proposed final effluent limitations are based on the more stringent of the Indiana water quality-based effluent limitations (WQBELs), technology-based effluent limitations (TBELs), or approved total maximum daily loads (TMDLs) and NPDES regulations as appropriate for each regulated outfall. Section 5.3 of this document explains the rationale for the effluent limitations at each Outfall.

Analytical and sampling methods used shall conform to the version of 40 CFR 136 as referenced in 327 IAC 5-2-13(d)(1) and 327 IAC 5-2-1.5. Nothing has changed to warrant modifying the monitoring conditions.

Outfall 003:

Parameter	Monthly Average	Daily Maximum	Units	Minimum Frequency	Sample Type
Flow	Report	Report	MGD	5 X Weekly	24-Hr. Total
TSS	3.0	7.6	lbs/day	1 X Monthly	24-Hr. Composite
Oil & Grease	2.0	6.0	lbs/day	1 X Monthly	Grab
Zinc	0.19	0.33	lbs/day	1 X Monthly	24-Hr. Composite
Phenol	0.18	0.18	lbs/day	1 X Monthly	Grab
Copper	0.08	0.15	lbs/day	1 X Monthly	24-Hr. Composite
Lead	0.08	0.16	lbs/day	1 X Monthly	24-Hr. Composite
TRC	0.01	0.02	mg/l	1 X Weekly	Grab
PCBs	0.0006	0.0013	ug/l	1 X Monthly	24-Hr. Composite
Mercury	12	20	ng/l	6 X Annually	Grab
Ammonia (as N)					
Summer	1.48	3.43	mg/l	1 X Weekly	24-Hr. Composite
Winter	1.52	3.54	mg/l	1 X Weekly	24-Hr. Composite
BOD ₅					
Summer	10.0	20.0	mg/l	3 X Weekly	24-Hr. Composite
Winter	15.0	30.0	mg/l	3 X Weekly	24-Hr. Composite
Temperature	Report	Report	°F	1 X Monthly	Grab
WET Testing	See Part I.F. of the Permit for WET Testing Requirements				

Parameter	Daily Minimum	Daily Maximum	Units	Minimum Frequency	Sample Type
pH	6.0	9.0	Std Units	1 X Weekly	Grab

5.2 Spill Response and Reporting Requirement

Reporting requirements associated with the Spill Reporting, Containment, and Response requirements of 327 IAC 2-6.1 are included in Part II.B.2.(d), Part II.B.3.(c), and Part II.C.3. of the NPDES permit. Spills from the permitted facility meeting the definition of a spill under 327 IAC 2-6.1-4(15), the applicability requirements of 327 IAC 2-6.1-1, and the Reportable Spills requirements of 327 IAC 2-6.1-5 (other than those meeting an exclusion under 327 IAC 2-6.1-3 or the criteria outlined below) are subject to the Reporting Responsibilities of 327 IAC 2-6.1-7.

It should be noted that the reporting requirements of 327 IAC 2-6.1 do not apply to those discharges or exceedances that are under the jurisdiction of an applicable permit when the substance in question is covered by the permit and death or acute injury or illness to animals or humans does not occur. In order for a discharge or exceedance to be under the jurisdiction of this NPDES permit, the substance in question (a) must have been discharged in the normal course of operation from an outfall listed in this permit, and (b) must have been discharged from an outfall for which the permittee has authorization to discharge that substance.

5.3 Permit Processing/Public Comment

Pursuant to IC 13-15-5-1, IDEM will publish the draft permit document online at <https://www.in.gov/idem/public-notices/>. Additional information on public participation can be found in the "Citizens' Guide to IDEM", available at <https://www.in.gov/idem/resources/citizens-guide-to-idem/>. A 30-day comment period is available to solicit input from interested parties, including the public.

Appendix A. TBEL Calculations

Production Unit	Production		Total Zinc		Total Copper*		Total Lead*		Total Phenols		Oil & Grease		TSS	
			Daily Max	Mnth Avg	Daily Max	Mnth Avg	Daily Max	Mnth Avg	Daily Max	Mnth Avg	Daily Max	Mnth Avg	Daily Max	Mnth Avg
40 CFR 464.12(b)/464.13(b)	244	ELG (lbs per million lbs product)	0.0138	0.0052	0.0093	0.0051	0.0096	0.0047			0.363	0.121	0.46	0.182
Casting Quench	tons/day	Mass Limit (lbs/day)	0.0067	0.0025	0.0045	0.0025	0.0047	0.0023			0.1771	0.0590	0.2245	0.0888
40 CFR 464.12(c)/464.13(c)	244	ELG (lbs per million lbs product)	0.0098	0.0037	0.0066	0.0036	0.0068	0.0034	0.0074	0.0026	0.259	0.0864	0.33	0.13
Die Casting Operations	tons/day	Mass Limit (lbs/day)	0.0048	0.0018	0.0032	0.0018	0.0033	0.0017	0.0036	0.0013	0.1264	0.0422	0.1610	0.0634
40 CFR 464.12(h)/464.13(h)	244	ELG (lbs per million lbs product)	0.440	0.166	0.297	0.162	0.305	0.151			11.6	3.86	14.7	5.79
Mold Cooling Operations	tons/day	Mass Limit (lbs/day)	0.215	0.081	0.145	0.079	0.149	0.074			5.661	1.884	7.174	2.826
		Total Mass Limit (lbs/day)	0.23	0.09	0.15	0.08	0.16	0.08	0.0036	0.0013	6.0	2.0	7.6	3.0

Zinc (Daily Maximum Limit)

$$\text{Casting Quench} = \frac{244 \text{ tons}}{\text{day}} \times \frac{2000 \text{ lbs}}{\text{ton}} \times \frac{0.0138 \text{ lbs}}{1000000 \text{ lbs}} = \frac{0.0067 \text{ lbs}}{\text{day}}$$

$$\text{Die Casting Operations} = \frac{244 \text{ tons}}{\text{day}} \times \frac{2000 \text{ lbs}}{\text{ton}} \times \frac{0.0098 \text{ lbs}}{1000000 \text{ lbs}} = \frac{0.0048 \text{ lbs}}{\text{day}}$$

$$\text{Mold Cooling Operations} = \frac{244 \text{ tons}}{\text{day}} \times \frac{2000 \text{ lbs}}{\text{ton}} \times \frac{0.440 \text{ lbs}}{1000000 \text{ lbs}} = \frac{0.215 \text{ lbs}}{\text{day}}$$

$$\text{Total Zinc Daily Maximum} = \frac{0.0067 \text{ lbs}}{\text{day}} + \frac{0.0048 \text{ lbs}}{\text{day}} + \frac{0.215 \text{ lbs}}{\text{day}} = \frac{0.23 \text{ lbs}}{\text{day}}$$